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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605238F / <i>Ground Based Strategic Deterrent EMD</i>
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COST (\$ in Millions)	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
Total Program Element	0.000	3,434.623	3,746.935	3,721.024	0.000	3,721.024	3,791.551	3,568.798	2,890.117	2,011.934	7,557.367	30,722.349
655238: <i>GROUND BASED STRATEGIC DETERRENT (GBSD)</i>	0.000	3,434.623	3,746.935	3,721.024	0.000	3,721.024	3,791.551	3,568.798	2,890.117	2,011.934	7,557.367	30,722.349
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Program MDAP/MAIS Code: 493

Note

On January 18, 2024, the USECAF notified Congress that the Sentinel program experienced a critical Program Acquisition Unit Cost (PAUC) breach. The cost and schedule estimates are from the December 2023 Program Office Estimate, which served as the basis for the Nunn-McCurdy breach.

In FY 2023, Program 0605230F, Ground Based Strategic Deterrent, Project 641025, Ground Based Strategic Deterrent, efforts were transferred to Program 0605238F, Ground Based Strategic Deterrent EMD, Project 655238, Ground Based Strategic Deterrent, in order to account for program transition to System Development and demonstration. (Budget Activity 5).

A. Mission Description and Budget Item Justification

To differentiate between Sentinel Systems Directorate and the Ground Based Strategic Deterrent (GBSD) now known as the Sentinel program, the GBSD program has been designated as the LGM-35A Sentinel. The LGM-35A Sentinel incorporates the Sentinel weapon system which is called out in related Sentinel System Directorate portfolio programs that includes Intercontinental Ballistic Missile (ICBM) Reentry Vehicles and ICBM Fuze Modernization.

The LGM-35A Sentinel program will design, develop, produce, and deploy a replacement for the current Minuteman III (MM III) ICBM weapon system in order to maintain a safe, secure, reliable, and effective nuclear deterrent. The LGM-35A Sentinel program will deliver a fully integrated weapon system that will lower lifecycle costs and close key capability gaps and vulnerabilities identified in the LGM-35A Sentinel Capabilities Based Assessment, LGM-35A Sentinel Capabilities Development Document, and the LGM-35A Sentinel Analysis of Alternatives. LGM-35A Sentinel will also mitigate ground-based deterrent degradation due to MM III component age-out and attrition.

The LGM-35A Sentinel program will include prime contractor development of applicable support equipment, data, flight test hardware and infrastructure, and training systems while examining and mitigating risk during the MM III to LGM-35A Sentinel transition. The LGM-35A Sentinel program office has partnered with MM III program office to facilitate communication and integration of the weapon system recapitalization during the transition. This program includes any needed nuclear surety and certification and system vulnerability assessments.

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<p>During the Engineering and Manufacturing Development (EMD) phase, the LGM-35A Sentinel program will execute 1) government system engineering, analytics, and test capability development; 2) air vehicle equipment development; 3) command & launch systems development; 4) infrastructure and deployment development; 5) support systems development; and 6) weapon system integration.</p> <p>Government systems engineering investments include development in model-based systems engineering (MBSE), integration, test software, product life-cycle management framework, and modernization of existing system engineering/integration labs and infrastructure. Air vehicle equipment is an integrated missile stack including the propulsion, post-boost, guidance, and re-entry systems sub-components. Command & launch encompasses all command and control mission equipment and interfaces; Integrated Command Center; cryptologic and cryptographic systems, software and associated interfaces; communications systems hardware, software, and associated interfaces; associated air and ground hardware; air and ground control equipment; and associated software directly related to the survivability, monitoring, and launch of the replacement flight system. Launch systems include launch centers, launch facilities, associated structures, ground mechanical systems, and security systems. Support systems include operator and maintainer training systems hardware and software, security system architecture, transport support equipment, program office and weapon system facilities, and support equipment. Weapon system integration risk reduction includes non-proprietary open systems architecture with well-defined interfaces and a modular design at the weapon system level to allow future modification and technology insertion. As LGM-35A Sentinel progresses toward Critical Design Review (CDR), the LGM-35A Sentinel weapon system design will dictate the parameters for the MILCON real property requirements and their integration with the weapon system component requirements as these are inextricably linked.</p> <p>The funding required for Fiscal Year 2025 will be used to continue the execution of the EMD contract to advance LGM-35A Sentinel program major activities to include systems engineering, information technology, data management, analytical capabilities and to deliver a flexible, integrated weapon system critical design. The program will modify, modernize, and expand the analytic environment and labs to support EMD activities to enable full execution of the program's capability to own the technical baseline throughout the program life cycle. This involves establishing a digital engineering system including a supporting environment / infrastructure to perform digital activities, to collaborate with, and to communicate across stakeholders. The LGM-35A Sentinel program will continue to examine and mature air vehicle equipment, command and launch, cybersecurity, operator and maintenance training systems hardware and software, security system architecture, transport sub-systems, Support Equipment and associated ground technologies. The program will also continue to mature and refine weapon system and non-operational software, software integration and development, modular system architecture requirements, and product life-cycle management. This will continue to require execution and improvement to the unified certification strategy facilitating system validation and verification for nuclear surety, cyber security, and nuclear safety requirements. The program will also expand and mature the analytical, information technology, test, and data management capabilities to ensure access to weapon system design information is properly controlled and securely transmitted between government and contractors. The program will continue to develop Vandenberg Space Force Base (VSFB) test capabilities and provision Western Range Test capabilities for the Flight Test Program. Additionally, the LGM-35A Sentinel program funds all required developmental and operational test and evaluation activities to meet initial and full operational capability milestones including, but not limited to, developing, improving, and modernizing test capabilities essential to reaching those milestones when existing test capabilities are inadequate or non-existent. The program will also continue development of capabilities to meet the requirement for dual-capable, air based, secondary launch platform. Finally, the program will establish a government-owned and government-operated DevSecOps / software stack within a cloud environment.</p> <p>In compliance: FY24 RDT&E funding for PE 0605230F, Program LGM-35A Sentinel is in compliance with budgeted end items per the approved test strategy and FY23 Omnibus, Sec. 8059.</p>		

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This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY 2023 \$31.786M was expended for civilian pay expenses in this program element, and in FY 2024 \$49.200M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

B. Program Change Summary (\$ in Millions)	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total
Previous President's Budget	3,614.290	3,746.935	3,401.679	0.000	3,401.679
Current President's Budget	3,434.623	3,746.935	3,721.024	0.000	3,721.024
Total Adjustments	-179.667	0.000	319.345	0.000	319.345
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	0.000			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	-52.000	0.000			
• SBIR/STTR Transfer	-127.667	0.000			
• Other Adjustments	0.000	0.000	319.345	0.000	319.345

Change Summary Explanation

FY 2023 Program Summary changes include -\$45.0M utilized on FY23-44IR that moved funding from the RDT&E appropriation to the Other Procurement appropriation for the LGM-35A Sentinel Mission Integration Facility Electronic Security System and temporary, relocatable facilities for the LGM-35A Sentinel Program Integration Office / Program Management Office at F.E. Warren AFB and Malmstrom AFB and \$7M RDT&E on FY23-09PA dated May 2023 that was realigned to Other Procurement, Air Force, to complete the Electronic Security System (ESS) for the Sentinel Mission Integration Facility at Hill Air Force Base. Additionally, \$127.7M was utilized for the AF SBIR.

FY 2025 increase due to the LGM-35A Sentinel program funds phasing for its EMD development work as the program continues identifying and reducing program transition risks. The program continues to advance its test series for Development Test & Evaluation (DT&E) and Operational Test & Evaluation (OT&E) for the air vehicle, launch facility, launch center, and all other test support assets.

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
Title: Engineering & Manufacturing Development (EMD) Product Development	2,873.384	3,042.691	2,881.170

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C. Accomplishments/Planned Programs (\$ in Millions)

Description: The EMD Product Development major thrust captures the planned events and activities of the EMD prime contractor in the design, development, and test activities of the LGM-35A Sentinel weapon system. The primary objectives on contract are to develop, manufacture, test, and deliver an affordable, integrated WS that meets the WSS requirements; incorporate modularity in the WS design to ensure LGM-35A Sentinel can adapt to meet the challenges of a dynamic threat environment, technological changes, and budget uncertainty, and reduce technical, engineering, integration, test, and lifecycle cost risk. The EMD Product Development includes the completion of detailed design for all hardware and software, the build and test of prototypes and first articles to verify compliance with capability requirements, and preparations for production and deployment. It also includes the execution of engineering design reviews, development test & evaluation, audits, and readiness reviews at the system and subsystem levels. These reviews include subsystem and system Critical Design Reviews (CDR), Full Functional Test, System Qualification and Verification Review, Functional Configuration Audits, Physical Configuration Audits, and Test Readiness Reviews. The EMD Product Development major thrust activities are linked with the corresponding EMD Government Support major thrust activities to ensure the government owns the technical baseline for the system acquisition. The objectives are: 1) advance LGM-35A Sentinel major activities, systems engineering activities, information technology, data management, analytical capabilities and deliver a flexible, integrated weapon system critical design, 2) prototype and test mature technologies related to the major activities and demonstrate performance of sub-system and system capabilities through prototyping and testing and 3) engage in rapid prototyping events to mature future design increments.

FY 2024 Plans:

- Conduct remaining sub-system Critical Design Reviews (CDR) in the lead-up to Weapon System (WS) CDR.
- Execute the EMD Contract to advance LGM-35A Sentinel major activities to include first development flight test milestone, systems engineering activities, test activities, information technology, data management, analytical capabilities and deliver a flexible, integrated weapon system critical design. Establish an initial product baseline at CDR for the weapon system.
- Examine and mature air vehicle equipment, command and launch, cybersecurity, operator and maintenance training systems hardware and software, security system architecture, transport sub-systems, and associated ground technologies.
- Build and refine Mission Modeling Framework (MMF) by incorporating higher-fidelity weapon system designs and updates to threat landscape to facilitate ongoing assessment of weapon system performance against the authoritative threat.
- Mature the assessment of the current MM III infrastructure to determine, through onsite assessments and analysis, the extent of degradation and evaluate for future upgrade, replacement, preparation, and modernization of operational and test facilities.
- Mature the weapon system by conducting trade studies, system engineering, test activities, and system modeling and simulation.
- Assess fielding requirements for air vehicle equipment, command & launch, and infrastructure and appropriate timelines to transition from MM III to LGM-35A Sentinel solution.
- Conduct planning for the use of MBSE tools during Operations and Sustainment phase in order to transform ICBM sustainment and supply chain management.

	FY 2023	FY 2024	FY 2025

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
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|--|--|--|--|
| <ul style="list-style-type: none"> • Mature and refine weapon system and non-operational software, software integration and development, modular system architecture requirements, and product life-cycle management. • Develop analytical, information technology, and data management capabilities. • Procure, design, expand, and prepare information technology equipment and network access for new Sentinel facilities to support program personnel. • Implement information systems and information technology design to support EMD execution; onboard program personnel into all Sentinel cloud networks, and provide applications needed in the cloud to execute the program. • Plan and execute critical software risk reduction activities. • Expand and mature the analytical, information technology, test, and data management capabilities to ensure access to weapon system design information is properly controlled and securely transmitted between government and contractors. • Expand large data ingest capabilities to support consumption of flight test and Model Based Architecture and Software Engineering data. • Execute and improve the unified certification strategy facilitating system validation and verification for nuclear surety, cyber security, and nuclear safety requirements. • Plan, develop, mature capability integration with the Nuclear Command, Control, and Communications (NC3) Center for future command, control, and communication requirements. • Collaborate with the National Nuclear Security Administration to ensure seamless integration of National Security Agency certified cryptologic, cryptographic, and Department of Energy assets into the LGM-35A Sentinel weapon system. • Integrate the Mk21A Reentry Vehicle (Program 0101328F) and LGM-35A Sentinel test programs. • Develop the capabilities to meet the requirement for dual-capable, air-based, secondary launch. • Develop and test reentry vehicles to meet joint Department of Energy and Department of Defense specific requirements. • Plan, develop, and mature support systems to include Support Equipment and all transportation equipment. • Conduct studies and initiatives to build schedule margin, reduce risk in the MM III to LGM-35A Sentinel transition, and reduce life cycle costs as the program progresses through the EMD phase to the Production phase. • Conduct facility and infrastructure conversions and fit-out at Vandenberg SFB, Hill AFB, and F.E. Warren AFB to support First Flight developmental test operations and facility prototypes to support LGM-35A Sentinel Operations and Deployment. • Perform supportability analysis and mature Logistics Product Data to establish the product support package to prepare for production, operations, and sustainment. • RDT&E quantities are built and delivered by the prime contractor to utilize in prototyping and design testing as the prime contractor progresses toward the final design solution and hardware needed for First Flight. | | | |
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FY 2025 Plans:

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> • Continue to execute the EMD Contract to advance LGM-35A Sentinel major activities to include first development flight test milestone, systems engineering activities, test activities, information technology, data management, analytical capabilities and deliver a flexible, integrated weapon system critical design. Establish an initial product baseline at CDR for the weapon system. • Continue to examine and mature air vehicle equipment, command and launch, cybersecurity, operator and maintenance training systems hardware and software, security system architecture, transport sub-systems, and associated ground technologies. • Continue to build and refine Mission Modeling Framework (MMF) by incorporating higher-fidelity weapon system designs and updates to threat landscape to facilitate ongoing assessment of weapon system performance against the authoritative threat. • Continue to mature the assessment of the current MM III infrastructure to determine, through onsite assessments and analysis, the extent of degradation and evaluate for future upgrade, replacement, preparation, and modernization of operational and test facilities. • Continue to mature the weapon system by conducting trade studies, system engineering, test activities, and system modeling and simulation. • Continue to assess fielding requirements for air vehicle equipment, command & launch, and infrastructure and appropriate timelines to transition from MM III to LGM-35A Sentinel solution. • Conduct planning for the use of MBSE tools during Operations and Sustainment phase in order to transform ICBM sustainment and supply chain management. • Continue to mature and refine weapon system and non-operational software, software integration and development, modular system architecture requirements, and product life-cycle management. • Continue to further develop analytical, information technology, and data management capabilities. • Continue to procure, design, expand, and prepare information technology equipment and network access for new Sentinel facilities to support program personnel. • Continue to implement information systems and information technology design to support EMD execution; onboard program personnel into all Sentinel cloud networks, and provide applications needed in the cloud to execute the program. • Continue to plan and execute critical software risk reduction activities. • Continue to expand and mature the analytical, information technology, test, and data management capabilities to ensure access to weapon system design information is properly controlled and securely transmitted between government and contractors. • Continue to expand large data ingest capabilities to support consumption of flight test and Model Based Architecture and Software Engineering data. • Continue to execute and improve the unified certification strategy facilitating system validation and verification for nuclear surety, cyber security, and nuclear safety requirements. • Continue to plan, develop, mature capability integration with the Nuclear Command, Control, and Communications (NC3) Center for future command, control, and communication requirements. • Continue to collaborate with the National Nuclear Security Administration to ensure seamless integration of National Security Agency certified cryptologic, cryptographic, and Department of Energy assets into the LGM-35A Sentinel weapon system. 			

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> Continue to integrate the Mk21A Reentry Vehicle (Program 0101328F) and LGM-35A Sentinel test programs. Continue to develop the capabilities to meet the requirement for dual-capable, air-based, secondary launch. Continue to develop and test reentry vehicles to meet joint Department of Energy and Department of Defense specific requirements. Continue to plan, develop, and mature support systems to include Support Equipment and all transportation equipment. Continue to conduct studies and initiatives to build schedule margin, reduce risk in the MM III to LGM-35A Sentinel transition, and reduce life cycle costs as the program progresses through the EMD phase to the Production phase. Continue facility and infrastructure conversions and fit-out at Vandenberg SFB, Hill AFB, and F.E. Warren to support First Flight developmental test operations and facility prototypes to support LGM-35A Sentinel Operations and Deployment. Continue to perform supportability analysis and mature Logistics Product Data to establish the product support package to prepare for production, operations, and sustainment. RDT&E quantities are built and delivered by the prime contractor to utilize in prototyping and design testing as the prime contractor progresses toward the final design solution and hardware needed for First Flight. <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding decreased due to the LGM-35A Sentinel program funds phasing for its EMD prime contractor development work as the program continues identifying and reducing program transition risks. The program continues to advance its test series for Development Test & Evaluation (DT&E) and Operational Test & Evaluation (OT&E) for the air vehicle, launch facility, launch center, and all other test support assets.</p>				
<p>Title: EMD Government Support</p> <p>Description: The EMD Government Support major thrust captures planned events and activities for government agencies, Federally Funded Research and Development Centers (FFRDCs), University Affiliated Research Centers (UARCs), and other partners in the support of the EMD prime contractor efforts in design, development, and test of the weapon system. The EMD Government Support major thrust activities are linked with the corresponding EMD Product Development major thrust activities to ensure the government owns the technical baseline for the system acquisition. The objectives are: 1) advance LGM-35A Sentinel major activities, systems engineering activities, information technology, data management, analytical capabilities and deliver a flexible, integrated weapon system critical design, 2) prototype and test mature technologies related to the major activities and demonstrate performance of sub-system and system capabilities through prototyping and testing and 3) engage in rapid prototyping events to mature future design increments.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> Modify, modernize, and expand the analytic environment and labs to support EMD activities to enable full execution of the program's capability to own the technical baseline throughout the program life cycle. This involves establishing a digital 		561.239	704.244	839.854

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<p>engineering system including a supporting environment/infrastructure to perform digital activities, collaborate with, and communicate across stakeholders.</p> <ul style="list-style-type: none"> • Examine and mature air vehicle equipment, command and launch, cybersecurity, operator and maintenance training systems hardware and software, security system architecture, transport sub-systems, and associated ground technologies. Refine requirements and modular architectures through trade studies, prototyping, demonstration, and analysis. • Assess fielding requirements for air vehicle equipment, command and launch, infrastructure, and appropriate timelines to transition from MM III to LGM-35A Sentinel solution. • Conduct studies and initiatives to build schedule margin, reduce risk in the Minuteman III to LGM-35A Sentinel transition, and reduce life cycle costs as the program progresses through the EMD phase to the Production phase. • Mature and refine weapon system and non-operational software, software integration and development, modular system architecture requirements, and product life-cycle management. • Mature the assessment of the current MM III infrastructure to determine, through onsite assessments and analysis, the extent of degradation and evaluate for future upgrade, replacement, preparation, and modernization of operational and test facilities. • Execute all government critical path activities to include, but not limited to, Environmental Impact Statement (EIS), Environmental Baseline Surveys, and Section 106 Programmatic Agreement. • Mature the weapon system by conducting trade studies, system engineering, test activities, and system modeling and simulation. • Build and refine MMF by incorporating higher-fidelity weapon system designs and updates to threat landscape to facilitate ongoing assessment of weapon system performance against the authoritative threat. • Expand large data ingest capabilities to support consumption of flight test and Model Based Architecture and Software Engineering data. • Plan for the use of MBSE tools during Operations and Sustainment phase in order to transform ICBM sustainment and supply chain management. • Develop analytical, information technology, and data management capabilities. • Procure, design, expand, and prepare information technology equipment and network access for new Sentinel facilities to support program personnel. • Implement information systems and information technology design to support EMD execution; onboard program personnel into all Sentinel cloud networks, and provide applications needed in the cloud to execute the program. • Expand and mature the analytical, information technology, test, and data management capabilities to ensure access to weapon system design information is properly controlled and securely transmitted between government and contractors. • Build and establish an industrial base for innovation around the Sentinel enterprise to maintain modularity and adaptability for the life cycle of the weapon system as well as to continue the digital transformation to support the LGM-35A Sentinel program. • Plan and execute critical software risk reduction activities. 			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> • Expand the Information Systems/Information Technology/Information Assurance infrastructure networks and personnel required to support Top Secret, Special Access Programs, and collateral activities and maintain and expand capability at mission partner operating locations and network access points. • Expand government-owned and government-operated DevSecOps/software stack to include data and software artifact transport between classified environments using cross domain solutions. • Implement cloud network infrastructure improvements to increase network reliability, availability, provide continued security, begin implementing cloud agnostic approach, and reduce latency across the networks. • Refine Security Classification Guide, update impacts, and implement updates and changes through all Government and contractor programmatic activities. • Integrate the Mk21A Reentry Vehicle (Program 0101328F) and LGM-35A Sentinel test programs. • Execute and improve the unified certification strategy which meets nuclear surety, cyber security, and nuclear safety requirements. • Develop a common cryptographic device and supporting equipment for use in multiple subsystems and/or networks throughout the LGM-35A Sentinel weapon system. • Plan, develop, and mature capability integration with the NC3 Center for future command, control, and communication requirements. • Increase FFRDC/UARC support to maintain the ability to own the technical baseline in EMD. • Increase Government Sustainment organizational support to maintain the ability to own and sustain the Hardware and Software technical baseline. • Plan, develop, and mature the sustainment strategies including Digital sustainment, Software Sustainment, and Hardware Sustainment. • Collaborate with National Nuclear Security Administration to ensure seamless integration of Department of Energy (DoE) assets into the LGM-35A Sentinel weapon system. • Develop test re-entry vehicles to meet joint DoE/DoD specific requirements. • Conduct platform integration efforts for dual-capable, air-based, secondary launch capability. • Develop, improve & modernize government test capabilities required for successful Developmental Test (DT) and Operational Test (OT) including but not limited to, Vandenberg SFB test capabilities, Western Range Test capabilities, Broad Ocean Area Terminal Area Scoring Test Capability, and various noise, vibration and harshness and nuclear hardness and survivability test sites/beds as required. Prepare & verify test capabilities' readiness to support the flight test campaign. Leverage digital engineering tools & physical test data to mature Modeling & Simulation tools. • Conduct activities necessary to plan, program, and execute weapon system structures needed to support program milestones and test objectives. • Plan, develop, and mature support systems to include Common Support Equipment/Peculiar Support Equipment and all transportation equipment. 			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> • Modify and expand Sentinel workspace at all operating locations to accommodate a growing workforce and provide the tools for the workforce to own the technical baseline. • Accomplish Life-cycle management and product support requirements as found in 10 USC 4324. <p><i>FY 2025 Plans:</i></p> <ul style="list-style-type: none"> • Continue to modify, modernize, and expand the analytic environment and labs to support EMD activities to enable full execution of the program's capability to own the technical baseline throughout the program life cycle. This involves establishing a digital engineering system including a supporting environment/infrastructure to perform digital activities, collaborate with, and communicate across stakeholders. • Continue to examine and mature air vehicle equipment, command and launch, cybersecurity, operator and maintenance training systems hardware and software, security system architecture, transport sub-systems, and associated ground technologies. Refine requirements and modular architectures through trade studies, prototyping, demonstration, and analysis. • Continue to assess fielding requirements for air vehicle equipment, command and launch, infrastructure and appropriate timelines to transition from MM III to LGM-35A Sentinel solution. • Continue to conduct studies and initiatives to build schedule margin, reduce risk in the Minuteman III to LGM-35A Sentinel transition, and reduce life cycle costs as the program progresses through the EMD phase to the Production phase. • Continue to mature and refine weapon system and non-operational software, software integration and development, modular system architecture requirements, and product life-cycle management. • Continue to mature the assessment of the current MM III infrastructure to determine, through onsite assessments and analysis, the extent of degradation and evaluate for future upgrade, replacement, preparation, and modernization of operational and test facilities. • Continue to execute all government critical path activities to include, but not limited to, Environmental Impact Statement (EIS), Environmental Baseline Surveys, and Section 106 Programmatic Agreement. • Continue to mature the weapon system by conducting trade studies, system engineering, test activities, and system modeling and simulation. • Continue to build and refine MMF by incorporating higher-fidelity weapon system designs and updates to threat landscape to facilitate ongoing assessment of weapon system performance against the authoritative threat. • Continue to expand large data ingest capabilities to support consumption of flight test and Model Based Architecture and Software Engineering data. • Conduct planning for the use of MBSE tools during Operations and Sustainment phase in order to transform ICBM sustainment and supply chain management. • Continue to further develop analytical, information technology, and data management capabilities. • Continue to procure, design, expand, and prepare information technology equipment and network access for new Sentinel facilities to support program personnel. 			

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C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> • Continue to implement information systems and information technology design to support EMD execution; onboard program personnel into all Sentinel cloud networks, and provide applications needed in the cloud to execute the program. • Continue to expand and mature the analytical, information technology, test, and data management capabilities to ensure access to weapon system design information is properly controlled and securely transmitted between government and contractors. • Continue to build and establish an industrial base for innovation around the Sentinel enterprise to maintain modularity and adaptability for the life cycle of the weapon system as well as to continue the digital transformation to support the LGM-35A Sentinel program. • Continue to plan and execute critical software risk reduction activities. • Continue to expand the Information Systems/Information Technology/Information Assurance infrastructure networks and personnel required to support Top Secret, Special Access Programs, and collateral activities and maintain and expand capability at mission partner operating locations and network access points. • Continue to expand government-owned and government-operated DevSecOps/software stack to include data and software artifact transport between classified environments using cross domain solutions. • Continue to implement cloud network infrastructure improvements to increase network reliability, availability, provide continued security, begin implementing cloud agnostic approach, and reduce latency across the networks. • Continue to refine Security Classification Guide, update impacts, and implement updates and changes through all Government and contractor programmatic activities. • Continue to integrate the Mk21A Reentry Vehicle (Program 0101328F) and LGM-35A Sentinel test programs. • Continue to execute and improve the unified certification strategy which meets nuclear surety, cyber security, and nuclear safety requirements. • Continue to develop a common cryptographic device and supporting equipment for use in multiple subsystems and/or networks throughout the LGM-35A Sentinel weapon system. • Continue to plan, develop, and mature capability integration with the NC3 Center for future command, control, and communication requirements. • Continue to increase FFRDC/UARC support to maintain the ability to own the technical baseline in EMD. • Continue to increase Government Sustainment organizational support to maintain the ability to own and sustain the Hardware and Software technical baseline. • Continue to plan, develop, and mature the sustainment strategies including Digital sustainment, Software Sustainment, and Hardware Sustainment. • Continue to collaborate with National Nuclear Security Administration to ensure seamless integration of Department of Energy (DoE) assets into the LGM-35A Sentinel weapon system. • Continue to develop test re-entry vehicles to meet joint DoE/DoD specific requirements. • Continue platform integration efforts for dual-capable, air-based, secondary launch capability. 			

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605238F / <i>Ground Based Strategic Deterrent EMD</i>	

C. Accomplishments/Planned Programs (\$ in Millions)	FY 2023	FY 2024	FY 2025
<ul style="list-style-type: none"> Continue to develop, improve & modernize government test capabilities required for successful Developmental Test (DT) and Operational Test (OT) including but not limited to, Vandenberg SFB test capabilities, Western Range Test capabilities, Broad Ocean Area Terminal Area Scoring Test Capability, and various noise, vibration and harshness and nuclear hardness and survivability test sites/beds as required. Prepare & verify test capabilities' readiness to support the flight test campaign. Leverage digital engineering tools & physical test data to mature Modeling & Simulation tools. Continue activities necessary to plan, program, and execute weapon system structures needed to support program milestones and test objectives. Continue to plan, develop, and mature support systems to include Support Equipment and all transportation equipment. Continue to modify and expand Sentinel workspace at all operating locations to accommodate a growing workforce and provide the tools for the workforce to own the technical baseline. Continue to accomplish Life-cycle management and product support requirements as found in 10 USC 4324. <p>FY 2024 to FY 2025 Increase/Decrease Statement: Funding increased due to the Sentinel (GBSD) program continuing to advance its EMD Development with government agencies, FFRDCs, UARCs, and other mission partners to support the EMD prime contractor efforts. The program continues to advance its test series for Development Test & Evaluation (DT&E) and Operational Test & Evaluation (OT&E) for the air vehicle, launch facility, launch center, and all other test support assets.</p>			
Accomplishments/Planned Programs Subtotals	3,434.623	3,746.935	3,721.024

D. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	FY 2026	FY 2027	FY 2028	FY 2029	Cost To Complete	Total Cost
• RDTE 04 PE 0605230F: <i>Ground Based Strategic Deterrent</i>	-	-	-	-	-	-	-	-	-	0.000	0.000
• RDTE 04 PE 0603851F: <i>Intercontinental Ballistic Missile - Dem/Val</i>	44.751	45.319	119.197	-	119.197	91.584	73.250	136.982	126.651	Continuing	Continuing
• RDTE 07 0101328F: <i>ICBM Reentry Vehicles</i>	112.282	475.415	629.928	-	629.928	740.334	955.013	710.312	332.728	Continuing	Continuing
• MPAF 01 Line Item MGBSD0: <i>Ground Based Strategic Deterrent</i>	0.000	539.300	0.000	-	0.000	1,634.097	4,131.827	5,073.777	5,697.755	69,015.349	86,092.105
• MPAF 01 MK21A0: <i>Mk21A Reentry Vehicle</i>	0.000	0.000	26.156	-	26.156	40.900	107.836	150.545	349.407	1,709.452	2,384.296

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Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0605238F / <i>Ground Based Strategic Deterrent EMD</i>
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D. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u> <u>Base</u>	<u>FY 2025</u> <u>OCO</u>	<u>FY 2025</u> <u>Total</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>FY 2029</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• MILCON PE 0101233F: <i>GBSD SQUADRONS</i>	457.920	198.040	770.000	-	770.000	1,109.000	830.000	1,453.000	957.000	3,609.377	9,384.337
• OPAF 03 WSC 834130: <i>AF Physical Security System</i>	9.839	4.172	5.689	-	5.689	23.040	0.000	0.000	0.000	0.000	42.740
• OPAF 04 845010: <i>Base Procured Equipment</i>	45.000	0.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	45.000

Remarks

E. Acquisition Strategy

The objective of the LGM-35A Sentinel program acquisition strategy is to deliver a full, integrated weapon system capability that meets Air Force Global Strike Command's Capability Development Document requirements. For the Engineering and Manufacturing Development (EMD) phase of this strategy, the Program Office awarded an EMD contract in the 4th quarter of Fiscal Year 2020. The objectives of EMD for the LGM-35A Sentinel program office are as follows: 1) to deliver low-risk, technologically mature, integrated weapon system baseline design; 2) develop flexible system architecture with options for future on-ramps and off-ramps to mitigate program risks; 3) embrace MBSE/digital engineering to streamline system development activities and timelines; 4) align contract incentives to mitigate schedule and performance risk; 5) utilize MBSE processes and tools to create schedule margin and accelerate surety, safety, cyber, and test activities for time certain delivery; 6) ensure government owns key interfaces and data rights; and 7) pursue "smart commonality" with U.S. Navy, U.S. Space Force, and Missile Defense Agency. The EMD phase includes an EMD Baseline Review, Critical Design Review, First Flight Test, Full Functional System Test, System Qualification/System Verification Review, Nuclear Certification, Developmental Test, Operational Test, and culminates with early production and weapon system deployment. The program will also assess the cost and schedule risks associated with every requirement. The EMD contract includes 5 options for early production and deployment. The period of performance, to include the production and deployment options, is fourth quarter of Fiscal Year 2020 to the second quarter of Fiscal Year 2028. These efforts will ultimately extend the capabilities of the ground-based leg of the nuclear triad through 2075.

LGM-35A Sentinel was authorized in the March 2023 Acquisition Decision Memorandum to procure test assets needed for Initial Operational Test and Evaluation and Operational Weapon System Article ground assets, utility corridors, and associated equipment to confirm functional weapons system performance in the EMD phase.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity 3600 / 5						R-1 Program Element (Number/Name) PE 0605238F / Ground Based Strategic Det errent EMD				Project (Number/Name) 655238 / GROUND BASED STRATEGIC DETERRENT (GBSD)					

Product Development (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-35A Sentinel EMD Contract	C/CPIF	Northrop Grumman Sys Corp : El Segundo, CA	0.000	2,873.383	Oct 2022	3,042.691	Oct 2023	2,881.170	Oct 2024	-		2,881.170	2,805.284	11,602.528	13,293.563
Subtotal			0.000	2,873.383		3,042.691		2,881.170		-		2,881.170	2,805.284	11,602.528	N/A

Remarks
 Prior to Fiscal Year 2023, funding for these efforts was included under Program 0605230F, Ground Based Strategic Deterrent. LGM-35A Sentinel EMD Contract Total Cost is anticipated to be \$13,293.563 million. Funding is split between programs 0605230F, Ground Based Strategic Deterrent and 0605238F, Ground Based Strategic Deterrent EMD.

Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integration Support Contract	C/FFP	TBD : Hill AFB, UT	0.000	118.480	Oct 2022	112.700	Oct 2023	157.520	Oct 2024	-		157.520	449.132	837.832	-
Naval Surface Warfare Center Crane Support	MIPR	Naval Surface Warfare Center Crane : Crane, IN	0.000	5.200	Nov 2022	7.800	Nov 2023	5.500	Nov 2024	-		5.500	38.815	57.315	-
Aerospace FFRDC Support	MIPR	Aerospace Corporation : El Segundo, CA	0.000	22.561	Nov 2022	25.126	Nov 2023	25.800	Nov 2024	-		25.800	119.298	192.785	-
MITRE FFRDC Support	MIPR	MITRE : Bedford, MA	0.000	16.216	Nov 2022	16.200	Nov 2023	18.702	Nov 2024	-		18.702	105.605	156.723	-
Carnegie Mellon Software Engineering Institute Support	MIPR	Carnegie Mellon : Pittsburgh, PA	0.000	3.267	Nov 2022	5.353	Nov 2023	5.537	Nov 2024	-		5.537	8.302	22.459	-
Sandia FFRDC Reentry Systems Analysis Support	MIPR	Sandia National Laboratories : Various	0.000	1.900	Oct 2022	3.750	Oct 2023	1.800	Oct 2024	-		1.800	77.776	85.226	-
MIT Lincoln Labs FFRDC Reentry Systems Analysis Support	MIPR	MIT Lincoln Labs : Lexington, MA	0.000	1.760	Oct 2022	1.300	Oct 2023	1.800	Oct 2024	-		1.800	11.088	15.948	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force												Date: March 2024			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
3600 / 5				PE 0605238F / Ground Based Strategic Det errent EMD				655238 / GROUND BASED STRATEGIC DETERRENT (GBSD)							
Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Nuclear Surety & Certification Support	MIPR	Various : Various	0.000	3.053	Nov 2022	8.000	Nov 2023	1.768	Nov 2024	-		1.768	24.307	37.128	-
Operations Research Analyst Support	C/FFP	Tecolote : Hill AFB, UT	0.000	7.911	Oct 2022	7.840	Oct 2023	9.900	Oct 2024	-		9.900	45.990	71.641	-
Common Cryptographic Equipment	MIPR	Sandia National Labs : Various	0.000	17.135	Nov 2022	3.075	Nov 2023	7.500	Nov 2024	-		7.500	43.224	70.934	-
Security Support	Various	Space Missile Defense : Herndon, VA	0.000	9.696	Dec 2022	12.742	Dec 2023	2.621	Dec 2024	-		2.621	87.151	112.210	-
LGM-35A Sentinel Direct Cite Civilian Pay	Various	US Gov Civilians : Hill AFB, UT	0.000	31.786	Oct 2022	49.200	Oct 2023	45.500	Oct 2024	-		45.500	198.789	325.275	-
NEPA Analysis Support	MIPR	Various : Various	0.000	16.873	Nov 2022	7.749	Nov 2023	19.937	Nov 2024	-		19.937	28.949	73.508	-
Reentry Vehicle Sustainment Support	C/CPAF	Lockheed Martin Corp : Bethesda, MD	0.000	2.282	Dec 2022	3.000	Dec 2023	2.700	Dec 2024	-		2.700	12.940	20.922	-
Sandia Integration Support	MIPR	Sandia National Labs : Various	0.000	2.550	Jan 2023	2.000	Jan 2024	3.700	Jan 2025	-		3.700	14.925	23.175	-
LGM-35A Sentinel Facility Execution Support	MIPR	Various : Various	0.000	3.707	Jan 2023	5.081	Jan 2024	5.081	Jan 2025	-		5.081	16.059	29.928	-
Space Dynamics Lab Support	C/CPFF	USU Space Dynamics Lab : Logan, UT	0.000	6.706	Nov 2022	12.800	Nov 2023	20.375	Nov 2024	-		20.375	35.149	75.030	-
NC3 Terrestrial Integration Support	Various	Various : Various	0.000	0.652	Dec 2022	3.239	Nov 2023	2.615	Nov 2024	-		2.615	4.878	11.384	-
Secondary Launch Platform - Airborne	MIPR	Naval Air Systems Command : Patuxent River, MD	0.000	0.227	Dec 2022	1.783	Dec 2023	3.937	Dec 2024	-		3.937	8.538	14.485	-
Test Range Support	Various	Various : Various	0.000	3.310	Dec 2022	15.062	Dec 2023	16.425	Dec 2024	-		16.425	8.656	43.453	-
USACE Integrated Program Office	MIPR	US Army Corp of Engineers : Washington D.C.	0.000	2.527	May 2023	0.000	Dec 2023	12.700	Nov 2024	-		12.700	118.031	133.258	-
LGM-35A Sentinel Enterprise Support	C/Various	Various : Various	0.000	1.629	Dec 2022	1.494	Dec 2023	0.920	Dec 2024	-		0.920	3,046.538	3,050.581	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605238F / Ground Based Strategic Det errent EMD	Project (Number/Name) 655238 / GROUND BASED STRATEGIC DETERRENT (GBSD)
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Support (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			0.000	279.428		305.294		372.338		-		372.338	4,504.140	5,461.200	N/A

Remarks
 Prior year's funding included under Program 0605230F, Ground Based Strategic Deterrent. LGM-35A Sentinel is spearheading the Owing The Technical Baseline (OTTB) approach for system acquisition. This approach utilizes additional support efforts that would typically be performed by a Prime Contractor thus increasing costs within Cost Category Items. Integration Support Contractor will be defined upon follow-on contract award.
 Additional Items:
 - Line item previously named Mantech has been changed to Security Support to reflect the various providers.

Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Johns Hopkins - Applied Physics Lab Support	MIPR	Johns Hopkins University-Applied Physics Lab : Laurel, MD	0.000	45.100	Oct 2022	33.000	Oct 2023	60.000	Oct 2024	-		60.000	110.151	248.251	-
Arnold Engineering Development Complex - Integrated Test Team	PO	Arnold Engineering Development Complex : Arnold AFB, TN	0.000	17.670	Oct 2022	21.562	Oct 2023	22.854	Oct 2024	-		22.854	284.712	346.798	-
Air Force Operational Test and Evaluation Center - Integrated Test Team	PO	Air Force Operational Test and Evaluation Center : Hill AFB, UT	0.000	2.563	Oct 2022	7.108	Oct 2023	11.845	Oct 2024	-		11.845	272.559	294.075	-
Missile & Intelligence Center - Integrated Threat Analysis and Simulation Environment	MIPR	DIA-Missile and Space Intelligence Center : Redstone Arsenal, AL	0.000	6.135	Nov 2022	4.000	Nov 2023	6.000	Nov 2024	-		6.000	29.142	45.277	-
National Air and Space Intelligence Center - Integrated Threat Analysis and Simulation Environment	MIPR	National Air and Space Intelligence Center : Fairborn, OH	0.000	0.750	Nov 2022	1.000	Nov 2023	2.040	Nov 2024	-		2.040	3.829	7.619	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605238F / <i>Ground Based Strategic Deterrent EMD</i>	Project (Number/Name) 655238 / <i>GROUND BASED STRATEGIC DETERRENT (GBSD)</i>
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Test and Evaluation (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
309th SMXG Software Engineering Support	PO	309th / 517th SWEG : Hill AFB, UT	0.000	22.535	Oct 2022	29.282	Oct 2023	35.781	Oct 2024	-		35.781	354.431	442.029	-
309th SMXG Nuclear Safety Cross Check Analysis	PO	309th / 516th SWES : Hill AFB, UT	0.000	16.000	Oct 2022	23.733	Oct 2023	25.836	Oct 2024	-		25.836	62.365	127.934	-
Silo Fly-out Modeling and Simulation	MIPR	Various : Various	0.000	5.500	Nov 2022	5.500	Nov 2023	0.000	Nov 2024	-		0.000	21.973	32.973	-
Rapid Assessment Technology	MIPR	Various : Various	0.000	17.303	Mar 2023	10.564	Mar 2024	10.564	Mar 2025	-		10.564	42.217	80.648	-
Sandia Flight Test Vehicle Development	MIPR	Sandia National Labs : Various	0.000	30.000	Dec 2022	13.000	Dec 2023	42.900	Dec 2024	-		42.900	30.965	116.865	-
Naval Surface Warfare Center Corona Support	MIPR	Naval Surface Warfare Center : Corona, CA	0.000	1.255	Dec 2022	1.294	Dec 2023	1.350	Dec 2024	-		1.350	10.088	13.987	-
Combined Test Facility Support	MIPR	Various : Various	0.000	3.045	Nov 2022	3.670	Nov 2023	2.164	Nov 2024	-		2.164	9.719	18.598	-
Broad Ocean Area Terminal Area Scoring Test Capability	MIPR	Navy Strat. Sys. Programs : Various	0.000	6.522	Nov 2022	52.509	Nov 2023	8.400	Nov 2024	-		8.400	134.156	201.587	-
Little Mountain Test Facility Radiation Lab Upgrades	C/CPFF	The Boeing Company : Layton, UT	0.000	0.000		5.950	Nov 2023	10.500	Nov 2024	-		10.500	22.658	39.108	-
Material Testing Collaboration	MIPR	Navy Strat. Sys. Programs : Washington, DC	0.000	0.500	Dec 2023	0.000	Dec 2024	4.733	Dec 2025	-		4.733	6.767	12.000	-
LGM-35A Sentinel Enterprise Test and Assessments	C/Various	Various : Various	0.000	1.855	Nov 2022	3.330	Nov 2023	6.241	Nov 2024	-		6.241	9,875.498	9,886.924	-
Subtotal			0.000	176.733		215.502		251.208		-		251.208	11,271.230	11,914.673	N/A

Remarks
 Prior year's funding included under Program 0605230F, Ground Based Strategic Deterrent.
 Additional Items:
 - Material Testing Collaboration

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605238F / Ground Based Strategic Deterrent EMD	Project (Number/Name) 655238 / GROUND BASED STRATEGIC DETERRENT (GBSD)
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Management Services (\$ in Millions)				FY 2023		FY 2024		FY 2025 Base		FY 2025 OCO		FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
LGM-35A Sentinel Administrative Support	C/FFP	Delta Solutions, Inc. : Colorado Springs, CO	0.000	0.532	Nov 2022	1.138	Nov 2023	0.000	Nov 2024	-		0.000	0.000	1.670	-
LGM-35A Sentinel Enterprise Process Improvement Support	C/FFP	Booz Allen Hamilton : McLean, VA	0.000	14.589	Nov 2022	17.961	Nov 2023	26.600	Nov 2024	-		26.600	46.531	105.681	-
Hardware, Software, IT Resources	C/Various	Various : Various	0.000	27.493	Oct 2022	103.199	Oct 2023	76.348	Oct 2024	-		76.348	155.909	362.949	-
LGM-35A Sentinel DevSecOps, Software Factory, Cloud, & Infrastructure	Various	Various : Various	0.000	56.176	Nov 2022	50.032	Nov 2023	102.110	Nov 2024	-		102.110	217.866	426.184	-
Operating Location Support	Various	Various : Various	0.000	0.041	Jan 2023	6.391	Jan 2024	0.130	Jan 2025	-		0.130	33.837	40.399	-
Government Product Lifecycle Management	TBD	TBD : TBD	0.000	0.000		-		4.854	Jan 2025	-		4.854	10.146	15.000	-
Enterprise PMA	Various	Various : Various	0.000	6.248	Oct 2022	4.727	Oct 2023	6.266	Oct 2024	-		6.266	774.824	792.065	-
Subtotal			0.000	105.079		183.448		216.308		-		216.308	1,239.113	1,743.948	N/A

Remarks
 Prior year's funding included under Program 0605230F, Ground Based Strategic Deterrent.
 Additional Items:
 - Government Product Lifecycle Management

	Prior Years	FY 2023	FY 2024	FY 2025 Base	FY 2025 OCO	FY 2025 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.000	3,434.623	3,746.935	3,721.024	-	3,721.024	19,819.767	30,722.349	N/A

Remarks
 In FY23, GBSD program transitioned from Budget Activity 04 to Budget Activity 05 and EMD efforts transitioned to PE 0605238F, Ground Based Strategic Deterrent EMD, Project 655238, Ground Based Strategic Deterrent from PE 0605230F, Ground Based Strategic Deterrent.

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Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force		Date: March 2024
Appropriation/Budget Activity 3600 / 5	R-1 Program Element (Number/Name) PE 0605238F / <i>Ground Based Strategic Deterrent EMD</i>	Project (Number/Name) 655238 / <i>GROUND BASED STRATEGIC DETERRENT (GBSD)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Sentinel (GBSD)				
Engineering and Manufacturing Development Phase	1	2023	3	2029
First Developmental Flight Test (Feb 2026)	2	2026	2	2026
Critical Design Review (Mar 2026)	2	2026	2	2026
Full System Functional Test (Feb 2027)	2	2027	2	2027
System Qualification/Verification Review (Mar 2029)	2	2029	2	2029
Milestone C (Jun 2029)	3	2029	3	2029
Production and Deployment Phase	3	2029	4	2029
Operational Weapon System Article Required Assets Available Review (Sep 2029)	4	2029	4	2029

Note

Program schedule events are currently under review in accordance with the Nunn-McCurdy process. Updates to the event schedule will be provided once the required Nunn-McCurdy analyses are completed.